

## Adsorption Behaviors of Heavy Metal Ions onto Electrochemically Oxidized Activated Carbon Fibers

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In this work, the effect of electrochemical oxidation treatments on activated carbon fibers (ACFs) was studied in the context of Cu(II) adsorption behaviors. Ten wt% phosphoric acid (A-ACFs) and ammonia (B-ACFs) were used for acidic and basic electrolytes, respectively. The surface and pore properties of ACFs were determined by XPS and  $N_2/77$  K isotherms, respectively. As a result, the electrochemical oxidation treatments led to an increase in the amount of oxygen-containing functional groups. Also, the Cu(II) adsorption capacity of the oxidized ACFs was improved in order of B-ACFs > A-ACFs > untreated-ACFs, in spite of a decrease in specific surface areas, resulting from destroying the pore by acidic electrolyte. It was clearly found that the heavy metal ions were largely influenced on the functional groups of ACF surfaces.